

WHAT IS CLAIMED IS:

1. A circuit comprising:

a diode;

5 a first transistor coupled in series with the diode;

a first resistor coupled in series with the transistor;

a second transistor having a control node coupled to a
control node of the first transistor and coupled to a node between
the first transistor and the first resistor; and

10 a second resistor coupled in series with the second
transistor such that a current in the second transistor is
independent of a voltage applied across the diode, the first
transistor, and the first resistor.

2. The circuit of claim 1 further comprising a bias
generator circuit coupled to the second transistor and coupled to
the second resistor.

3. The circuit of claim 2 wherein the bias generator
circuit comprises:

a first branch coupled to the second transistor and
coupled to the second resistor; and

25 a second branch coupled to the first branch by current
mirrors.

4. The circuit of claim 2 wherein the bias generator
circuit includes a third resistor coupled between the second
resistor and a voltage supply node.

30 5. The circuit of claim 3 wherein the first branch
includes a third resistor coupled between the second resistor and
a voltage supply node.

6. The circuit of claim 1 wherein the first and second

transistors are bipolar transistors.

7. The circuit of claim 1 wherein the first and second transistors are PNP bipolar transistors.

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8. A circuit comprising:

a constant voltage drop device;

10 a first transistor coupled in series with the constant voltage drop device;

a first resistor coupled in series with the transistor;

a second transistor having a control node coupled to a control node of the first transistor and coupled to a node between the first transistor and the first resistor; and

15 a second resistor coupled in series with the second transistor such that a current in the second transistor is independent of a voltage applied across the constant voltage drop device, the first transistor, and the first resistor.

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20 9. The circuit of claim 8 wherein the constant voltage drop device is a diode.

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10. The circuit of claim 8 further comprising a bias generator circuit coupled to the second transistor and coupled to the second resistor.

11. The circuit of claim 10 wherein the bias generator circuit comprises:

30 a first branch coupled to the second transistor and coupled to the second resistor; and

a second branch coupled to the first branch by current mirrors.

12. The circuit of claim 10 wherein the bias generator

circuit includes a third resistor coupled between the second resistor and a voltage supply node.

13. The circuit of claim 11 wherein the first branch
5 includes a third resistor coupled between the second resistor and
a voltage supply node.

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10 14. The circuit of claim 8 wherein the first and second
transistors are bipolar transistors.

15. The circuit of claim 8 wherein the first and second
transistors are PNP bipolar transistors.